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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,990	12/21/2001	John Seibel	41286	8142

7590 04/09/2007	EXAMINER
Roylance, Abrams, Berdo & Goodman, L.L.P. Suite 600 1300 19th Street, N.W. Washington, DC 20036	LU, KUEN S

ART UNIT	PAPER NUMBER
2167	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/023,990	SEIBEL ET AL.
	Examiner	Art Unit	
	Kuen S. Lu	2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *18-43* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *18-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. This action is responsive to Applicant's Amendment filed January 19, 2007.

Applicant's amendment made to claims 23, 25 and 42 is acknowledged and objection to

the claims is hereby withdrawn as necessitated by the amendment.

2. As to Applicant's Arguments/Remarks filed January 19, 2007, please see Examiner's

response in "***Response to Arguments***", following this Office Action for Final Rejection

(hereafter "the Action"), shown next. Please note, in the Action, the Examiner maintains

the same grounds of rejections as set forth in the non-final rejections of October 19,

2006, and further note claims 18-43 in the application are pending.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.1. As set forth in MPEP 2106 (II) (A):

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application

3.2. As set forth in MPEP 2106 (IV) (B) (1):

Claims to computer-related inventions that are clearly nonstatutory fall into the same general categories as nonstatutory claims in other arts, namely natural phenomena such as magnetism, and abstract ideas or laws of nature which constitute "descriptive material." Abstract ideas, Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759, or the mere manipulation of abstract ideas, Schrader, 22 F.3d at 292-93, 30 USPQ2d at 1457-58, are not patentable. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se. Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

3.3. As set forth in MPEP 2111.04:

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are:
(A)   " adapted to " or "adapted for " clauses;
(B)   " wherein " clauses; and
(C)   " whereby " clauses.
The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In Hoffer v. Microsoft Corp., 405 F.3d 1326, 1329,
74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the invention." Id. However, the court noted (quoting Minton v. Nat 'l Ass 'n of Securities Dealers, Inc., 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited.'" Id.<
Examiner respectfully suggests applicants replacing the "adapted to" and "such that" clause by a positive statement that discloses the claimed invention.

3.4. Claims 18-19 and 35-43 are rejected under 35 U.S.C. § 101 because the claimed

invention is directed to non-statutory subject matter.

As per claim18, the claimed invention represents a method of auditing an election

comprising steps of marking paper ballots, scanning voted ballots, generating and

analyzing visual representations, and associating the representations and vote data with

voted ballot. Noted is generating visual representations produces some **intermediate**

result, however, the claims do not present any significant functionality to satisfy useful

or tangible result aspect of a practical application by merely performing some steps and

concluding the performing with an abstract step of associating visual representations

and vote data with voted ballot wherein there is no tangible or useful result generated by

the step of association. Therefore, the claims do not ensue or produce any useful or

tangible result as required in a practical application test. The consequence is non-

statutory.

As per claim 35, the claims are directed to a computer-readable medium of

instructions for control a system to perform some operations. However, the claimed

"computer readable" medium comprises wireless telecommunication signals and carrier

waves, forms of energy. As forms of energy, the signals and waves are not a matter,

composition of matter or product; and do not fall within any one of categories of

patentable subject matter. Further noted is that specification does not support any

computer readable medium. Also noted is generating visual representations produces

some **intermediate** result, however, the claims do not present any significant

functionality to satisfy useful or tangible result aspect of a practical application by merely

performing some steps and concluding the performing with an abstract step of

associating visual representations with vote data wherein there is no tangible or useful

result generated by the step of association. Therefore, the claims do not ensue or

produce any useful or tangible result as required in a practical application test. The consequence is non-statutory.

As per claim(s) in the groups (19) and (36-43), the claims inherit the deficiency of being non-statutory directly or indirectly from claims 18 and 35, respectively, and do not rectify the deficiency individually or by inheritance. Again, the consequence is non-statutory.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.1. Claims 18-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClure et al. (U.S. Patent 6,250,548, hereafter "McClure").

As per Claims 18, 24 and 35, McClure teaches "marking each of a plurality of" "paper ballots with a unique ballot identification" (See col. 30, lines 58-59 where a unique absentee ballot issue number is the 3rd data element in the ballot);

McClure does not explicitly teach that the paper ballot is marked after the ballot is

voted, although the ballot identification marked in the ballot remains on the voted ballot.

However, McClure also teaches internet voting where image ballot is downloaded,

displayed, written-in/changed, cast and stored at col. 37, lines 22-38 and further

teaches retrieval of voted ballot by election official to evaluate legitimacy of voter

handwriting at col. 32, lines 53-57.

It would have been obvious to one having ordinary skill in the art at the time of the

Applicant's invention was made to combine McClure teachings of retrieving voted ballot

with downloading, displaying and changing of ballot image for making changes to voted

ballot because McClure recognizes possibilities of errors in each step of voting process

and implements error prevention or correction steps, such as authenticating voter

identity and verifying voter eligibility, and the combined teaching would have enabled

McClure's system not only to resolve the problem of prior art of voting system, but also

rectify the errors made by voters such that the object of a voting system accurately

converting voter's selection into a final tally could have been truly accomplished. (See

last two paragraphs of BACKGROUND OF INVENTION and the beginning three and

last one paragraphs of SUMMARY OF THE INVENTION of McClure reference).

McClure further teaches the following:

"scanning said plurality of <u>voted</u> ballots and generating computer readable visual

representations of each of said ballots" (See col. 32, lines 29-41 where a scanning

software scans and analyzes ballot, and generates an image based on analyzed ballot,

and readability of the image is established on the fact that the scanning constructed

image is storable in computer memory, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update);

"**analyzing markings in said visual representations indicating a voter's intent made on said plurality of <u>voted</u> ballots**" (See col. 32, lines 42-59 where cast ballot is scanned into image and voter's handwriting is converted and interpreted, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update);

"**generating vote data associated with each of said plurality of <u>voted</u> ballots based on said visual representations of said ballots**" (See col. 32, lines 49-57 where the voter's interpreted write-in is stored as part of the voted ballot image, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update); and

"**associating each said visual representation and corresponding vote data with said <u>voted</u> ballot based on said unique ballot identification**" (See col. 32, lines 49-57 where the voter's interpreted write-in is stored as part of the voted ballot image and at col. 33, lines 42-48 where voter information with voted ballot image is stored in memory location, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is downloaded for change and update).

As per Claims 19, 26 and 37, McClure further teaches "**vote data comprises said unique ballot identification**" (See col. 43, lines 24-31 by showing cast ballot and voter identification are linked together before ballot is selected and cast selection).

As per Claims 20, 27 and 38, McClure further teaches "**storing said computer readable visual representation and said vote data in a database**" (See col. 9, lines 42-44 where database maintains voted image and at col. 43, lines 32-35 and col. 44, lines 1-5 where the readable cast ballot is moved into the primary storage location at the voting site and later transmitted to a central computer to store selection).

As per Claims 21, 30 and 41, McClure further teaches "**storing said computer readable visual representation and said vote data in a relational database**" (See col. 9, lines 5-6 and 42-44 where database maintains voted image and commercial database for storing cast ballot includes relation databases).

As per Claim 25 and 36, McClure teaches "**a display device adapted to display at least one said visual representation and said vote data associated therewith**" (See Fig. 26 and col. 37, lines 17-22 and col. 30, lines 46-59 where ballot style with identification information, the issue number, is displayed).

As per Claim 22, 31, 32, 33 and 42, McClure further teaches the following:

"**retrieving at least one of said computer readable visual representations**" (See Fig.

26 and col. 37, lines 17-22 and col. 30, lines 46-59 where in the internet voting, the

ballot style with identification information, the issue number, is retrieved and displayed);

"**displaying said computer readable visual representation and said vote data**

associated therewith on a display device" (See Fig. 26 and col. 37, lines 17-22 and

col. 30, lines 46-59 where in the internet voting, the ballot style with identification

information, the issue number, is retrieved and displayed); and

"**modifying said vote data associated therewith**" (See Fig. 26 and col. 37, lines 22-38

and col. 30, lines 46-59 where in the internet voting, the voter writes in and/or change

selection, and cast the ballot).

    As per Claim 23, McClure further teaches the following:

"**retrieving at least one of said computer readable visual representations**" (See col.

42, lines 65-67 where voting tablet displays governor selection is the starting of the

ballot selection/cast);

"displaying said **computer readable visual representation** and said vote data

associated therewith on a display device" (See col. 42, lines 60-67 by showing the

voting steps in the voting booth and voting tablet illuminating and displaying message

for starting the voting/casting process);

"**retrieving the _voted_ ballot associated with said computer readable visual**

representation based on said unique ballot identification" (See col. 43, lines 24-31

by showing cast ballot and voter identification are linked together before ballot is

selected and cast, and at col. 32, lines 53-57 and col. 37, lines 22-38 where voted ballot

is retrieved for image evaluation and image ballot is downloaded for change and

update); and

"**modifying said vote data associated with said _voted_ ballot and said computer**

readable visual representation" (See col. 43, lines 25-30 where voter can move

his/her selections before finally casting by pressing the ballot cast button, and at col. 32,

lines 53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation

and image ballot is downloaded for change and update).

As per Claims 26 and 37, McClure teaches "**mark said _voted_ ballot with a unique**

ballot identification" (See col. 43, lines 24-31 by showing cast ballot and voter

identification are linked together before ballot is selected and cast, and at col. 32, lines

53-57 and col. 37, lines 22-38 where voted ballot is retrieved for image evaluation and

image ballot is downloaded for change and update, and at col. 32, lines 53-57 and col.

37, lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is

downloaded for change and update).

As per Claims 27 and 38, McClure teaches "**associate said unique ballot**

identification with said vote data and said visual representation of said _voted_

ballot" (See col. 42, line 65 – col. 43, line 16 where voting styles according to each

voter is displayed for his/her selection, and at col. 32, lines 53-57 and col. 37, lines 22-

38 where voted ballot is retrieved for image evaluation and image ballot is downloaded

for change and update).

As per Claims 28 and 39, McClure teaches "**a storage device for storing said vote**

data and said visual representation of said ballot" (See col. 43, lines 32-35 and col.

44, lines 1-5 where the readable cast ballot is moved into the primary storage location at

the voting site and later transmitted to a central computer to store, and at col. 9, lines 5-

6 where commercial database for storing cast ballot includes relation databases).

As per Claims 29 and 40, McClure teaches "**said storage device comprises a**

database" at col. 43, lines 32-35 and col. 44, lines 1-5 where the readable cast ballot is

moved into the primary storage location at the voting site and later transmitted to a

central computer to store, and " (See col. 9, lines 5-6 where commercial database for

storing cast ballot includes relation databases).

As per Claims 34 and 43 McClure teaches "**modify said vote data based on a**

review of the _voted_ ballot associated with said unique ballot identification in said

vote data" (See col. 43, lines 25-30 where voter can move his/her selections before

finally casting by pressing the ballot cast button, and at col. 32, lines 53-57 and col. 37,

lines 22-38 where voted ballot is retrieved for image evaluation and image ballot is

downloaded for change and update).

Response to Arguments

5. Concerning Applicant's Remarks/Arguments, filed 1/19/2007, Please see discussion below:

1). At Pages 8-11, concerning claims 18-19 and 35-43, Applicant argued that each claim produces tangible, useful and concrete result under statutory 35 U.S.C. § 101.

As to the above argument, Examiner respectively submits that the rejections was made in an action of non-final rejection and further submits that in claims 18 and 35, the claims do generate some intermediate result. However, the subject matter as claimed is auditing an election and where the subject matter described in the claim elements is considered as a whole in terms of its useful, concrete and tangible result. The subject matter as claimed is concluded by a step of associating a visual representation(s) with voted ballot or vote data. The conclusive association step does not generate a useful or tangible result for the subject matter of auditing an election.

As for claims 36-43, the claims lack of performing an action. For example, instructions adapted to control a system to display are not required the steps control or display to be performed. Please see MPEP 2111.04.

2). At Page10-12, concerning 35 U.S.C. § 103(a) rejections to independent claims 18, 24 and 35, based on a single McClure reference, Applicant argued that teachings provided by the reference is pieced up and hindsight.

As to the above argument, the Examiner respectfully submits that the references cited does reasonably interpret the elements of respective claims, and provides specific teaching for the four models as described in the claim language. The Examiner also respectfully submits that each limitation in the claims has been given the broadest

reasonable interpretation consistent with the specification and in light of the supporting

disclosure in the Action (See MPEP , 2106 [R-2], 2111 [R-1]). Please further note In re

Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).

Limitations appearing in the specification but not recited in the claim are not read into

the claim. > E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d

1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification"

without importing limitations from the specification into the claims unnecessarily).

Having the above in mind, the Examiner cited Cosic, Collins and Sah references for

providing teachings equivalent to the disclosures.

In the arguments, Applicant argued that the McClure reference does not teach steps

of downloading, displaying, writing-in/changing, casting and storing. Examiner

respectfully submits the internet voting does download vote data, displaying on web

page, allowing voter to vote, returning cast vote and storing data on memory or keep a

printed record. As for the claimed element of marking voted ballot, Examiner

established a *prima facie* case of obviousness by examining McClure's recognition of

possibilities of errors in each step of voting process and the need of error prevention or

correction steps, such as authenticating voter identity and verifying voter eligibility, and

further recognized that the implementation of marking voted ballot would have enabled

McClure's system not only to resolve the problem of prior art of voting system, but also

rectify the errors made by voters such that the object of a voting system accurately

converting voter's selection into a final tally could have been truly accomplished. Please

note the motivation for such implementation is based on BACKGROUND OF

INVENTION and SUMMARY OF THE INVENTION of McClure reference.

Prior Art

6.1. The prior art made of record

    B. U.S. Patent   6,250,548

6.2. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

    A. U.S. Publication 2004/0046021

    C. U.S. Patent   4,776,510

    D. U.S. Patent   5,218,528

    E. U.S. Patent   5,878,399

Conclusion

7. Applicant's amendment necessitated the new grounds of rejection presented in this

Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37CFR 1.136(a).

    A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Contact information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S. Lu whose telephone number is (571) 272-4114. The examiner can normally be reached on Monday-Friday (8:00 am-5:00 pm). If attempts to reach the examiner by telephone pre unsuccessful, the examiner's Supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 703-305-39000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for Page 13 published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 703-305-3900 (toll free).

JOHN COTTINGHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Kuen S. Lu,
Patent Examiner, Art Unit 2167

March 22, 2007